REMARKS/ARGUMENTS

Claims 1-16 and 18-21 are active.

Claim 1 is amended to define the functional metal layer as stated in the original claims (before preliminary amendment) and in the specification on page 3, line 17.

The Examiner has also rejected the claims as allegedly containing unclear language applying 35 USC 112, second paragraph (see the rejection bridging pages 3-4 of the Official Action). Applicants address each in turn below.

Rejecting Claim 1 the Examiner contends that the term "upper" is unclear, however, as the term "upper" is defined specifically on page 3, lines 24-27 it cannot be considered unclear.

The Examiner has rejected Claim 2 due to the term "surmounted". Applicants have replaced that term with the phrase "and the barrier layer is coated."

The Examiner rejects Claim 3 as it refers to "the silver" but Claim 1 as it existed does not use the term "silver". Claim 1 is amended to provide silver in the transparent substrate and as such proper antecedent basis is found in Claim 1.

The rejections of Claims 4 and 6 relating to the upper dielectric layer and the barrier layer are no longer relevant based on the clarifying amendments, particularly the articles attributed to the noted terms.

With respect to Claim 8, the term "upper" has been added prior to the phrase "dielectric layer" so that it refers to the structure in Claim 1.

Claim 15 has been amended to remove the phrase "the invention" and insert the phrase "Claim 1". Claim 15 has also been clarified so that it is clearer that Claim 15 relates to a double-glazing having a particular light transmission.

No new matter is believed to have been added. Withdrawal of the rejection under 35 USC 112, second paragraph is requested.

With respect to the comment on page 2 of the Action (item 1) pertaining to the specification. As noted by the Examiner only a single NiCr layer is present and therefore it is and would be apparent to one of ordinary skill that a zirconium barrier layer was replaced with a nickel-chromium layer. No further action is deemed to be required.

The claims in this application are to a transparent substrate having at least three specifically defined layers. The first layer being a functional layer, which is defined as silver layer. The second layer is a metal barrier layer in contact with that functional layer that is made of zirconium and the third layer is an upper dielectric layer having at least one ZnO layer in contact with the functional or barrier layers. This is the structure noted in the rejection applied under 35 USC 112, first paragraph that has been determined to be enabled. Accordingly, the rejection applied under 35 USC 112, first paragraph is no longer applicable. Withdrawal of the rejection is requested.

In the Official Action, the Examiner has rejected the claims as allegedly being obvious under the meaning of 35 USC 103(a) in view of the combination of Coustet using the English language version US2005/0123772 and Chesworth US 4,749,397. As outlined in the Action, Coustet describes a layered article on a transparent glass substrate having metal layers as well as zinc oxide and blocking layers but that blocking layer is made of titanium metal (much like is described in the background section of the present application on page 2).

Coustet does not describe and the Office has acknowledged that Coustet does not describe zirconium as the metal barrier layer. For this feature, the Examiner cites to the Chesworth patent which suggest including zirconium in a metal layer in a glass laminate. Thus, based on that disclosure the Examiner contends that it would have been obvious to use

zirconium as taught by Chesworth into the Coustet multilayer with a reasonable expectation of success.

Applicants respectfully disagree. While Applicants understand that persons having ordinary skill in the art normally seek "to improve upon what is already generally known." *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003), before persons having ordinary skill in the art would want to optimize the choice or use of chemical components in a claim, the prior art must at least generally recognize the process and generally suggest the components the claims utilizes to achieve its goals. To establish that Applicants' claims would have been obvious to a person having ordinary skill in the art, the prior art must reasonably suggest that persons having ordinary skill in the art do what Applicants claims require. Here, the only suggestion to do what Applicants have done is Applicants' own disclosure, i.e. hindsight.

Notwithstanding this and assuming that a *prima facie* obviousness case has been made, Applicants have presented data in the specification which shows the significant improvements when zirconium is used as the metal barrier layer compared to other metal layers. See, e.g., In re Sullivan, 84 USPQ2d 1034 (Fed. Cir. 2007) a showing of unexpected results rebuts a *prima facie* case of obviousness.

As noted in the specification on page 4, lines 13-16 the barrier layer composed of zirconium can be below or above the functional layer and as discussed in the specification on page 1, third paragraph, the basic arrangement of the claims was known but with other metals. Indeed, the specification on page 3, third paragraph, explains that the prior multi-layers had poor performance and were unsatisfactory. The specification provides a series of examples and comparative examples demonstrating the improved effect when zirconium is used as the barrier layer in conjunction with a ZnO based dielectric layer and a silver functional metal layer.

In particular, comparative Example 1 uses a nickel chromium barrier layer with the tin oxide dielectric layer where comparative Example 2 replaces the barrier layer with zirconium and as discussed on page 10 the replacement improves color retention, transmission and resistance. Example 1 employs a zirconium barrier and a ZnO dielectric layer with a final tin oxide layer, where Example 2 replaces that final tin oxide layer with a silicone nitride layer. Comparative Examples 1a and 2a vary the thickness but are generally the same as comparative Examples 1 and comparative Example 2, which have the same effect in terms of light transmission and other properties (see page 13 of the application). Example 3 and comparative Example 3 (on pages 14-15 of the application) compare the zirconium barrier layer and nickel chromium and the table on page 15 (table 8) demonstrates better reflection and more adept at withstanding heat treatment.

Indeed, in the rejection bridging pages 2-3 of the Official Action, the Examiner has acknowledged that the arrangement of silver, zirconium and ZnO provides a much better and even unexpected result compared to the comparative examples. It is noted that the Examples provided in the application include a silver functional layer and the claims have been so amended to include this layer.

Reconsideration and withdrawal of this rejection is requested.

A Notice of Allowance is requested.

Respectfully submitted,

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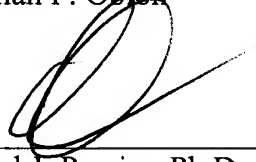

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